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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,636	11/05/2001	Saeid Zerafati	IR 3635NP	4896

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ARKEMA INC.
PATENT DEPARTMENT - 26TH FLOOR
2000 MARKET STREET
PHILADELPHIA, PA 19103-3222

EXAMINER

MULLIS, JEFFREY C

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/010,636	Applicant(s) ZERAFATI ET AL.	
	Examiner Jeffrey C. Mullis	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-7 is/are allowed.
- 6) ☒ Claim(s) 1 and 8-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-02, 7-04</u> | 6) <input type="checkbox"/> Other: _____ |

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Applicants' Abstract is not in the form of a single paragraph. Correction is required.

The right part of the structure in paragraph 35 of applicants' specification contains the number "2" which should be subscripted. Correction is suggested.

Claim 11 contains two periods. Correction is required. Claim 11 also recites "1" and "wherein" strung together. Correction is required.

Applicants' provisional application 60/249,504 to which domestic priority is claimed has been reviewed and it is the position of the Examiner that applicants' provisional application fully supports the instant claims.

Applicant's election with traverse of a core composed of an alkyl acrylate as well as a shell composed of an alkyl acrylate; a linear terpolymer containing a heterocycle containing one oxygen plus a heteroatom; a thermoplastic which is an alloy of polyesters and polycarbonates in Paper No. 1004 is acknowledged.

The traversal is on the ground(s) that there is no serious burden of search on the Examiner since a search for the impact modifier would necessitate a search of a composition containing a blend of the core/shell polymer and linear terpolymer. This is not found persuasive because the search for the various species is not co-extensive and it is not the position of the Examiner

that the core/shell polymer and linear terpolymer should not both be searched. The Examiner has in fact required a specific election of a specific species for each but did not require an election of either the core/shell polymer or linear terpolymer. With regard to applicants' statement that the impact modifier of the blend of the present invention is useful in a thermoplastic, this argument is immaterial where applicants have not stated clearly that they considered all thermoplastics or addition to the impact modifier to be obvious variants over each other.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1 and 8-11 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

At least claim 1 recites the term "vinyl type" when referring to a structure which is vinylidene, not vinyl and it is therefore unclear if the two bonds shown in the structure to which the term "vinyl type" refers to may be bonded to two alkyl groups or can be bonded to a hydrogen and an alkyl group or other group.

The amount of agent recited in Part "1" of Part "A" of claim 1 is unclear since the range recited occurs after recitation of

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the cross-linking agent and grafting agent and therefore it is unclear if the range referred to applies to the grafting agent or may also apply to the cross-linking agent.

It is not clear what is intended by the limitation just prior to Part "B" of claim 1 reciting "wherein optionally 0.1 to 50 weight percent of vinyl monomers are functional groups" in that acrylate monomers referred to necessarily have carboxyl ester functional groups already as well as unsaturations.

The "terpolymer" of claim 10 lacks antecedent basis in claim 2.

The "lower alkyl acrylate" of Part "B" of claim 1 is subjective and therefore unclear given that there is no art recognized demarcation between lower alkyl acrylates and other alkyl acrylates.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 8, 9 and 11 are rejected under 35 U.S.C. § 103(a)

as being unpatentable over Brown et al. (U.S. 5,723,551) in view of Farnham et al. (U.S. 4,096,202), Wayne (U.S. 4,034,013) and Owens (U.S. 3,808,180).

Brown et al. disclose compatibilized blends of "thermoplastic resin" polyphenyl ethers and polyester resins containing a compatibilizer and impact modifier. Note the Abstract. The compatibilizing compounds contain epoxy groups at column 10 lines 29-30 and include ethylene-glycidyl methacrylate-methyl acrylate terpolymers at column 11 lines 46-48 and may be present a level of .1-20% at column 11 lines 60-65. The impact modifier includes core-shell type graft copolymers containing a predominantly cross-linked acrylate rubber core and one or more shells polymerized thereon derived from acrylic monomers. Note column 12 lines 20-32 and further that specific materials are incorporated by reference at column 12 lines 31-32, namely Farnham et al. (U.S. 4,096,202), Wayne (U.S. 4,034,013) and Owens (U.S. 3,808,180). Note for instance Farnham et al. in the Table in column 4, Wayne in Example 1 and Owens in Example 5 all of which disclose applicants' core-shell polymers.

No specific examples exist in Brown et al. of applicants' combination of glycidyl methacrylate linear terpolymer and specific core-shell polymer. However addition of the specific core-shell polymer of applicants' claims to a composition

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containing terpolymer would have been obvious to a practitioner having ordinary skill in the art at the time of the invention since the references incorporated by reference by Brown et al. for production of core-shell polymers of Wayne, Farnham et al. and Owens are disclosed to be usable as impact modifiers and motivated to practice the embodiment of Brown et al. requiring core-shell impact modifiers absent any showing of surprising or unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Mullis whose telephone number is (571) 272-1075. The examiner can normally be reached on Monday-Friday from 9:30 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on (571) 272-1078. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-0994.

J. Mullis:cdc

February 22, 2005

Jeffrey Mullis
Primary Examiner
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